RAPID ORIENTATION OF WAX EMBEDDED SPECIMENS

D.A. CRAIG
Department of Entomology
University of Alberta
Edmonton 7, Alberta

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A rapid method for orientation of wax embedded specimens in precast wax blocks with an electrical heat probe is given.

Pour l'orientation de spécimens imbibés au préalable de cire dans des blocs de cire moulés d'avance, une méthode simple est décrite ne nécessitant qu'un simple fil métallique chauffé électriquement.

A procedure for the rapid, accurate embedding and orientation of simuliid (Diptera) embryos and larval heads in wax has been developed which should prove useful for other small animals.

The specimens are impregnated with wax in a small container on a hot plate adjacent to a stereoscopic microscope. Then a previously cast squared wax block is positioned in the optical axis of the microscope. Next, each specimen is lifted from the molten wax with a fine needle. On removal the wax solidifies rapidly around the needle and specimen. Then the specimen is carried to the top of the wax block and held there while a small pool of molten wax is formed in the top of the block with an electrically heated probe. Then the probe is touched to the needle above the specimen. This melts the wax and the specimen slides off into the pool.

The probe consists of part of a straightened wire paper-clip with one end inserted in a glass rod. Three inches of oxide coated, 0.008 inches diameter resistance wire is twisted around the clip near the tip and the ends of the wire are connected to the secondary winding of a variable transformer for a microscope lamp which allows the temperature of the probe to be controlled.

The specimen is oriented with the needle, while the probe prevents the pool of wax from solidifying and determines the depth of the specimen in it (Fig. 1). During final cooling the wax solidifies from the bottom and holds the specimen steady. If the specimen has been maintained in the microscope's optical axis, the orientation of the specimen is known in relation to the sides of the wax block and any required orientation can be repeated. The block is sectioned in the normal manner with particular care given to its orientation to the microtome knife.

With this technique it is possible to get perfect transverse, sagittal, and frontal sections. Fig. 2 shows a sagittal section of the recurrent nerve (r.n) in *Cnephia dacotensis* and Fig. 3, the stomodaeum (st.) of *Gymnopais* sp.

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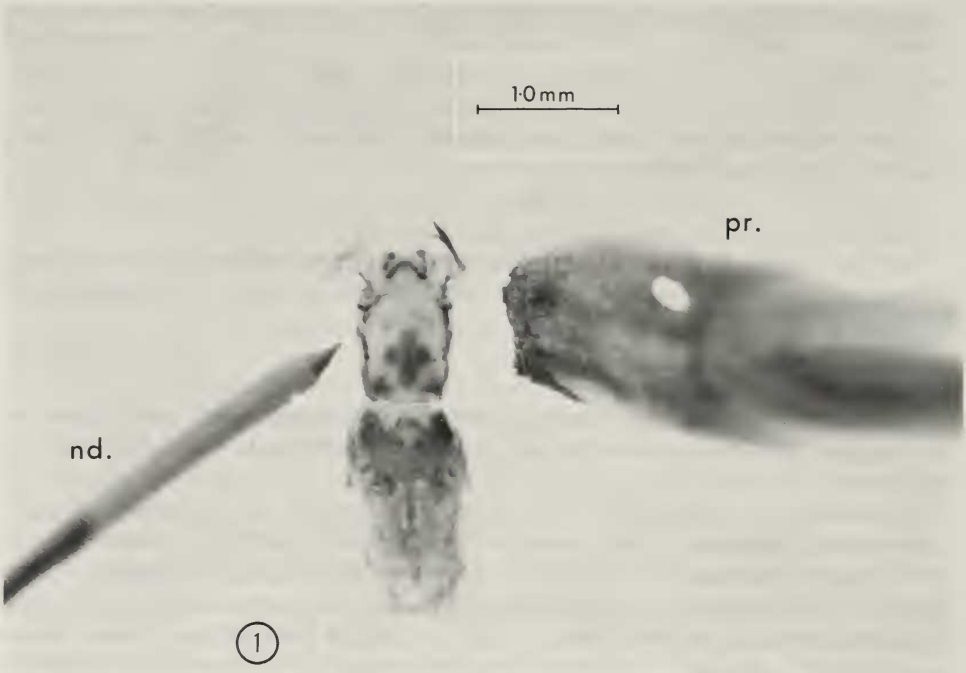

Figure 1. Larval head of *Cnephia dacotensis* during orientation. pr = probe, nd = needle.

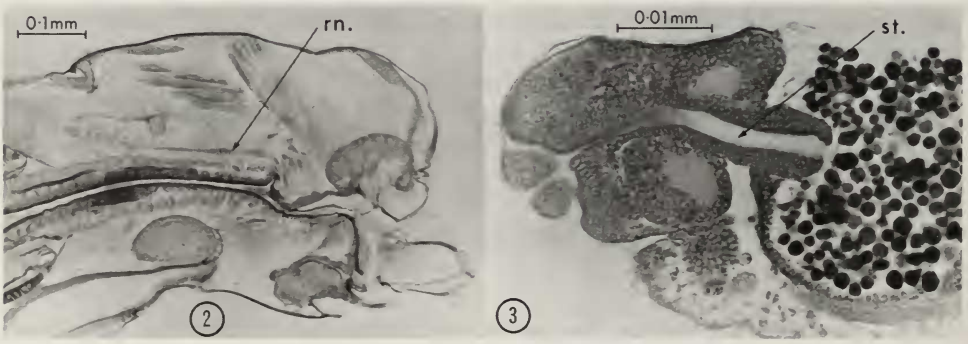

Figure 2. Sagittal section of larval head of *Cnephia dacotensis* showing recurrent nerve (rn). Figure 3. Sagittal section of embryo of *Gymnopais* sp. showing stomodaeum (st.).